4.02 Fair Value vs. Cash Flow Hedge

When a derivative contract has been made to **hedge** against the risk associated with another contract or planned activity, the method of accounting for changes in the fair value of the derivative depends on the type of hedge involved:

- **Fair value hedge** – If the derivative is hedging against a recognized asset/liability or a firm purchase commitment, then changes in the value of the derivative are reported in **income from continuing operations**.
  - An example is the purchase of put options to protect against a possible decline in the market price of a stock portfolio. Should the market decline, the losses on the stock should be offset by gains on the puts.
  - Fair value hedges can be used to hedge against the value of inventories, the value of a fixed-income investment, the value of a fixed-rate debt obligation, and a firm commitment.
- **Cash flow hedge** – If the derivative is hedging against a forecasted transaction that is expected to take place in the future, but which is not yet a legal commitment, then changes in the value of the derivative are reported as direct adjustments to stockholders' equity and are included in **other comprehensive income** (OCI) until the transaction is complete and the cash flows have actually occurred.
  - An example is the purchase of a futures contract on steel by a company that believes it will need to make large steel purchases in the near future. An increase in the price of steel will cause the value of the futures contract to rise, helping the company pay the increased costs. Since those costs are not yet reflected in income, the increase in the futures contract is not reflected either.

> Assume the client is an oil distributor and has purchased 100 million gallons of gasoline from its supplier refinery on October 1 at a cost of 70 cents per gallon. They plan to sell the oil to various airlines in early January, but are concerned that, in the meantime, the price of oil might drop considerably from the current selling price of 80 cents.

To protect the inventory, the client sells a gasoline futures contract based on a wholesale gasoline price index per gallon (the underlying) times 100,000,000 gallons (the notional amount), with a settlement date of January 2.

Assume the price of the index drops 4 cents per gallon by the end of the year.

The purchase of the inventory by the distributor from the refinery is recorded as follows (assume immediate payment and entries in millions of dollars):

10/1		
Inventory	70	
Cash		70

When the futures contract is established, there is no entry since no cash is involved. This is a **fair value hedge** since the distributor is hedging against an existing asset.

As of the end of the year, the decline of 4 cents per share in the price of oil results in a loss on the inventory of $4,000,000. The futures contract, however, is now expected to result in a collection of $4,000,000 upon settlement. The entries are:

12/31		
Loss on market decline in inventory	4	
Inventory		4
Receivable on derivative	4	
Gain on fair value hedge		4

Both the loss on inventory and gain on the fair value hedge are included in the computation of net income, so there is no net income effect. This, of course, was the goal of the hedge.

Let's now go back to October 1 and look at the side of the airline that is planning on purchasing the gasoline in early January. This client might enter the very same contract to hedge against a price increase, but it would be a **cash flow hedge**, since there is no asset, liability, or fixed commitment yet for the purchase.

On October 1, the airline enters a derivative based on the gasoline index with the same notional amount of 100,000,000 gallons. There is **no entry** on that date.

On December 31, the price decline of 4 cents per gallon in the index means that the airline expects to have to pay $4,000,000 on the settlement date. The entry is:

12/31		
OCI – loss on cash flow hedge	4	
Payable on derivative		4

Note that the loss is not included in the calculation of net income. The reason is that the decline in gasoline is expected to reduce the cost of inventory in the next period, so this loss will be offset by reduction of cost of sales in the next period. Since the offsetting event is not yet reflected in net income, neither can the hedge.

Some hedges do not entirely protect a company against the risk that the hedge is intended to mitigate. A fair value hedge, for example, may not offset all changes in the fair value of the hedged item. Likewise, a cash flow hedge may not offset all changes in the cash flows associated with the hedged item.

The degree to which a change in the value of a fair value hedge offsets the change in the value of the hedged item, and the degree to which a change in the cash flows of a cash flow hedge offset changes in the cash flows of the hedged item is called the hedge's **effectiveness**.

- A hedge is **perfectly effective** if all changes in the fair value or cash flows of the hedged item are offset by corresponding changes in the hedge.
- A hedge is **highly effective** if most changes in the fair value or cash flows of the hedged item are offset by corresponding changes in the hedge. The portion not offset is the degree to which the hedge is **ineffective**.

- A hedge is considered **ineffective** if relatively few or none of the changes in the fair value or cash flows of the hedged item are offset by changes in the hedge.

Changes in the fair value of a hedging instrument, including both the effective and ineffective portions, are reported as follows:

- **Fair value hedges** – Recognized in *income* on the same line as the corresponding gain or loss on the hedged item in the income statement.
- **Cash flow hedges** – Recognized in *OCI*, to be taken into income in the same period in which changes to the hedged item affect income.
  - **Net investment hedges** (ie, a foreign currency cash flow hedge designed to mitigate foreign currency exposure due to a net investment in a foreign operation)—Recognized in *the currency translation adjustment section of OCI*

To summarize, when derivatives are used as speculation or fair value hedges, gains and losses are reported in net income (in the case of a fair value hedge, there will be offsetting amounts on the asset or commitment being hedged). When derivatives are used as cash flow hedges, gains and losses are reported in OCI (they are transferred to net income when the expected events occur and offsetting amounts are reported in net income).

Derivatives Summary

Speculation (nonhedge)

- Acquired to take on risk in the hopes of profit.
- Gain or loss in income from continuing operations. **(I/S)**

Fair value hedge

- Acquired to hedge against a recognized asset or liability or a firm purchase commitment.
- Gain or loss in income from continuing operations. **(I/S)**
  Should be offset by loss or gain on hedged item.

Cash flow hedge

- Acquired to hedge against a forecasted future transaction.
- Gain/loss in OCI **(B/S)**
- Nothing included in net income until forecasted activity occurs.

Net investment hedge—Foreign currency hedge against an investment in foreign operations

- Acquired to hedge against currency risk from a major investment in a company with a functional currency (ie, the currency in which books are maintained) other than the U.S. dollar.
- Gain/loss in OCI **(B/S)**
- Offsets translation losses or gains from investment in foreign operations.

Alternative Accounting Approach for Nonpublic Entities (Interest Rate Swaps)

The Private Company Council (PCC) of the FASB established an alternative accounting approach that is available to nonpublic entities when accounting for certain interest rate swaps, often

referred to as "plain vanilla" interest rate swaps, and which have become very common among large and small entities.

This Simplified Hedge Accounting Approach gives nonpublic companies the option to use this simpler approach to account for certain types of interest rate swaps that are entered into for the purpose of economically converting variable-rate interest payments to fixed-rate payments.

An interest rate swap to which the alternative accounting approach applies is one related to the following circumstances:

- The entity has an obligation that bears interest at a variable rate.
- The entity enters into a derivative contract known as an interest rate swap under which:
  - The entity will receive payments from the other party at a variable rate
  - The entity will make payments to the other party at a fixed rate
- As a result of the swap, the net interest paid by the entity is equivalent to what would have been paid if the obligation had interest at a fixed rate.

In order to qualify for the alternative treatment, the variable rate in the swap must vary according to changes in the same index that causes changes in the rate on the related obligation. In addition:

- The terms must be virtually identical such that they mirror the terms of the underlying obligation.
- The settlement date on which payments are exchanged for the swap are very close to the dates on which payments are made on the underlying obligation.
- The initial fair value of the swap is zero, indicating that the interest rates are comparable on the date it is entered into and that the parties have different views on anticipated future changes in the index rate.
- The notional amount of the swap, the amount on which the swapped interest rates are calculated, must be equal to, or lower than the principal balance of the hedged instrument.
- All interest payments must be designated as hedged, in proportion to the ratio of the notional amount of the hedge and the principal balance of the underlying obligation.

If all conditions are met and the entity elects to apply the alternative accounting approach, there are several differences in the requirements. First, *documentation* and other elements are not required to be completed in advance. They may be completed any time until the first set of F/S on which the alternative accounting approach is applied are either issued or available to be issued, whichever is earlier.

The remaining differences are included in the *alternative accounting approach* which will be applied as follows:

- It is assumed that the swap is perfectly effective and the debt obligation is accounted for as if it bore interest at a fixed rate.
- The hedge, the interest rate swap, is reported at its *settlement amount* rather than its fair value.
- Any difference between reported amounts and payments made or received are reported in *OCI*.

The accounting for an interest rate swap under the alternative approach will result in the following:

- Interest expense will be debited for an amount calculated by applying the fixed rate to the principal balance, adjusted for the amount of time elapsed since the previous calculation.

- Principal will be debited for the amount by which it is reduced as a result of applying the terms of the obligation to any payments made.
- An asset or liability will be debited or credited to adjust the amount reported as the balance of the derivative to the settlement value of the interest rate swap.
- Cash will be credited for the net amount paid, including the payment on the underlying obligation adjusted for the net amount received from the counterparty or paid to the counterparty to the swap, depending on whether the index rate has increased or decreased, respectively.
- The amount required to balance the entry will be reported as a debit or credit to *OCI*.